

Claims:

1.           A screw compressor comprising a casing, a male and a female rotor formed with axially twisted screw grooves and accommodated in the casing, the both rotors being rotated by timing gears fixed to the respective rotors while a desired minute gap is kept therebetween, and the respective rotors comprising concave stripes having a minute depth and provided on the respective screw grooves to extend along directions of twist thereof.
2.           The screw compressor according to claim 1, wherein the concave stripes are provided on whole surfaces of the respective screw grooves to extend in parallel to directions of twist of the respective screw grooves.
3.           The screw compressor according to claim 1, wherein respective widths of the concave stripes and pitch spaces between adjacent concave stripes are smaller in those regions, in which curved surfaces of the both rotors comprise a combination of a convex surface and a convex surface, than in those regions, in which curved surfaces of the both rotors comprise a combination of a convex surface and a concave surface.
4.           The screw compressor according to claim 1, wherein the concave stripes at bottoms of the screw grooves on the male rotor are smaller in respective widths thereof and pitch spaces between adjacent ones than those on other portions than the bottoms.

5. The screw compressor according to claim 1, wherein means for increasing fluid resistance against an air is provided on the concave stripes in those regions, in which a movement path of a minimum portion of a minute gap formed between the both rotors at the time of rotation of the both rotors intersects the concave stripes.

6. The screw compressor according to claim 1, wherein surfaces of the concave stripes are roughened in those regions, in which a movement path of a minimum portion of a minute gap formed between the both rotors at the time of rotation of the both rotors intersects the concave stripes.

7. A method of manufacturing rotors for a screw compressor having a casing, and a male and a female rotor formed with axially twisted screw grooves and accommodated in the casing, the both rotors being rotated by timing gears fixed to the respective rotors while a desired minute gap is kept therebetween, the method comprising performing a finish working, in which concave stripes having a minute depth and extending along directions of twist of the screw grooves on the male rotor or the female rotor are formed by machining performed by a machining-center provided with a ball end mill as a tool.

8. The method according to claim 7, wherein the concave stripes in those regions, in which curved surfaces of the both rotors comprise a combination of a

convex surface and a convex surface, are formed by means of a ball end mill having a smaller tool radius than that of a ball end mill used in formation of the concave stripes in those regions, in which curved surfaces of the both rotors comprise a combination of a convex surface and a concave surface.

9.           The method according to claim 7, wherein the concave stripes at bottoms of the screw grooves of the male rotor are formed by means of a ball end mill having a smaller tool radius than that of a ball end mill used in formation of the concave stripes in other portions than the bottoms.

10.           The method according to claim 7, wherein a ball end mill performs up cut working in those regions, in which a movement path of a minimum portion of a minute gap formed between the both rotors by rotation of the both rotors intersects the concave stripes.